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## FILM PREPARATION

### DEPOSITION

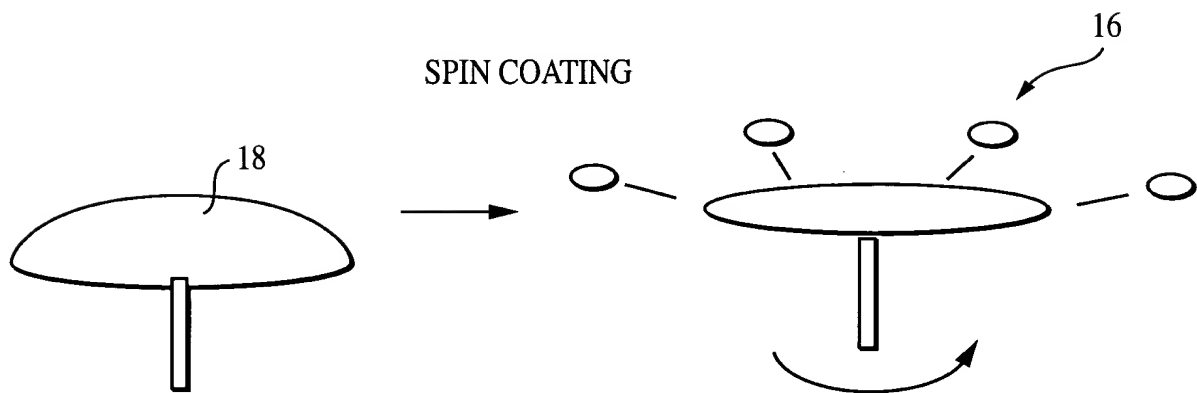
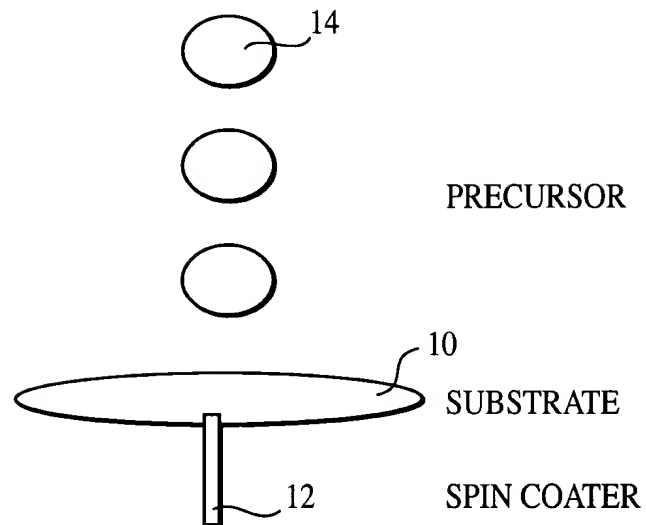


FIG. 1



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# SOLUTION PREPARATION

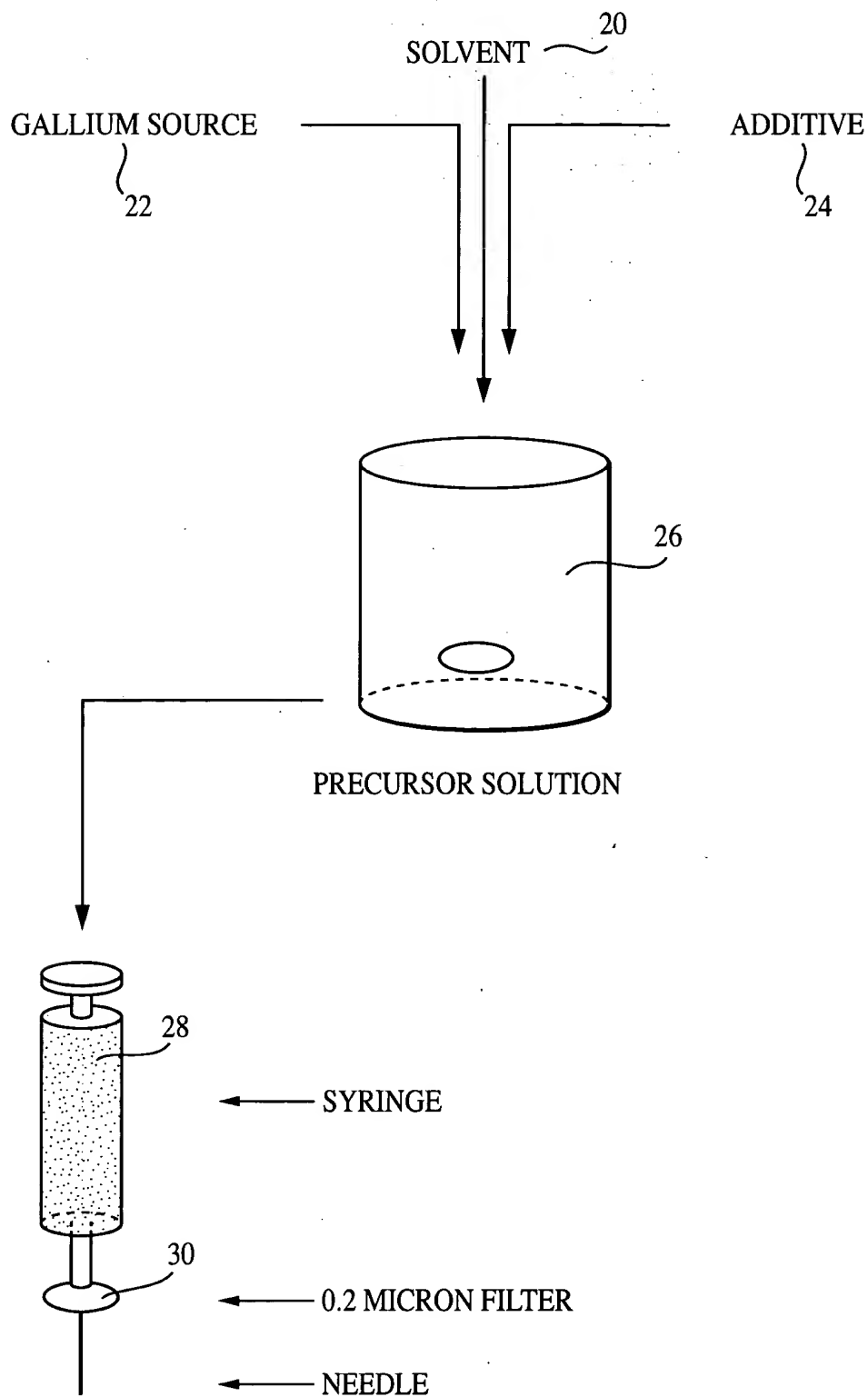


FIG. 2



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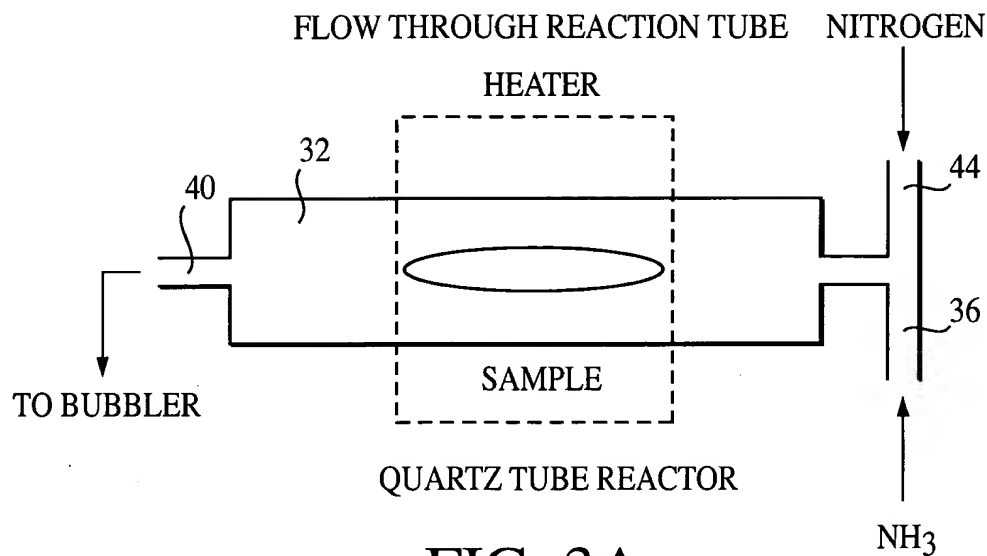


FIG. 3A

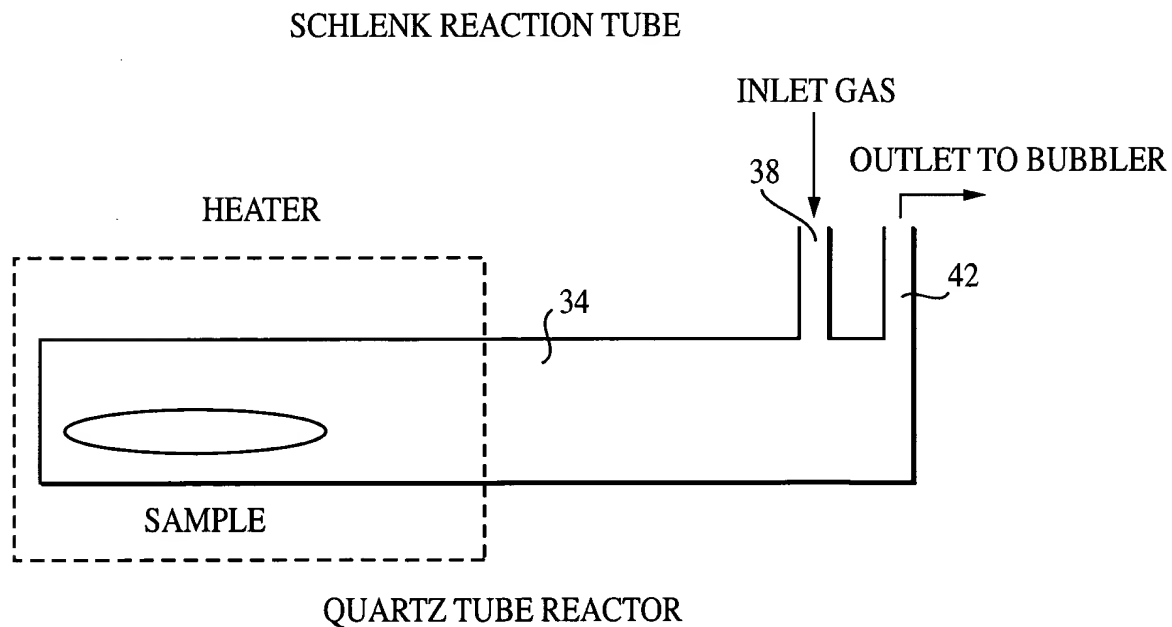
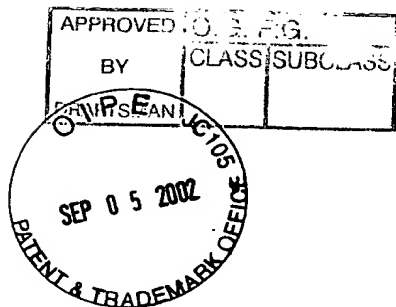


FIG. 3B



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# MASS SPECTROMETER EXPERIMENT

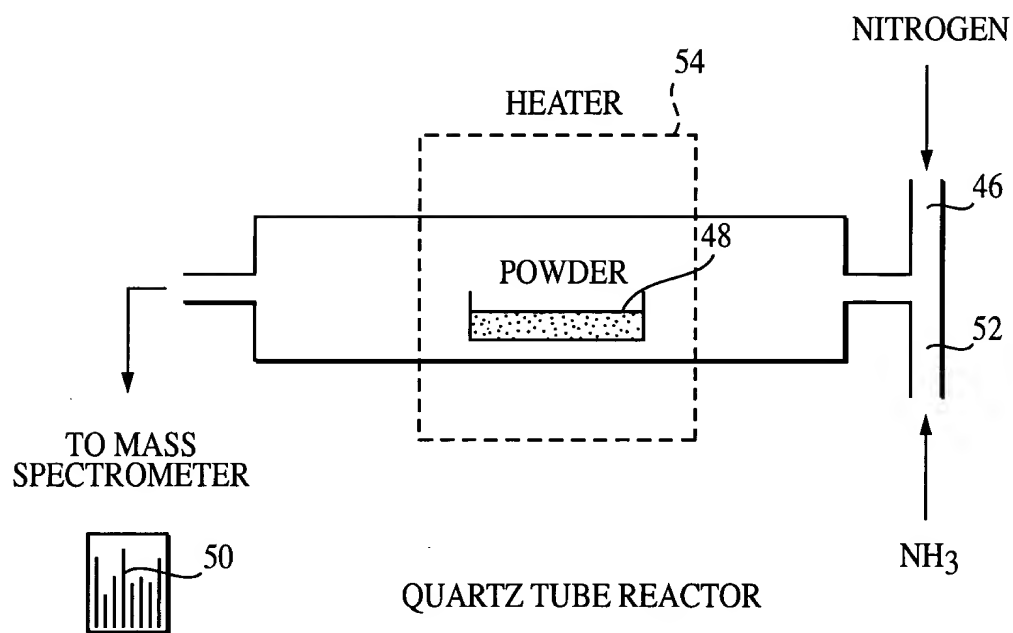


FIG. 4

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(C-PLANE)  $\text{Al}_2\text{O}_3$  SUBSTRATE

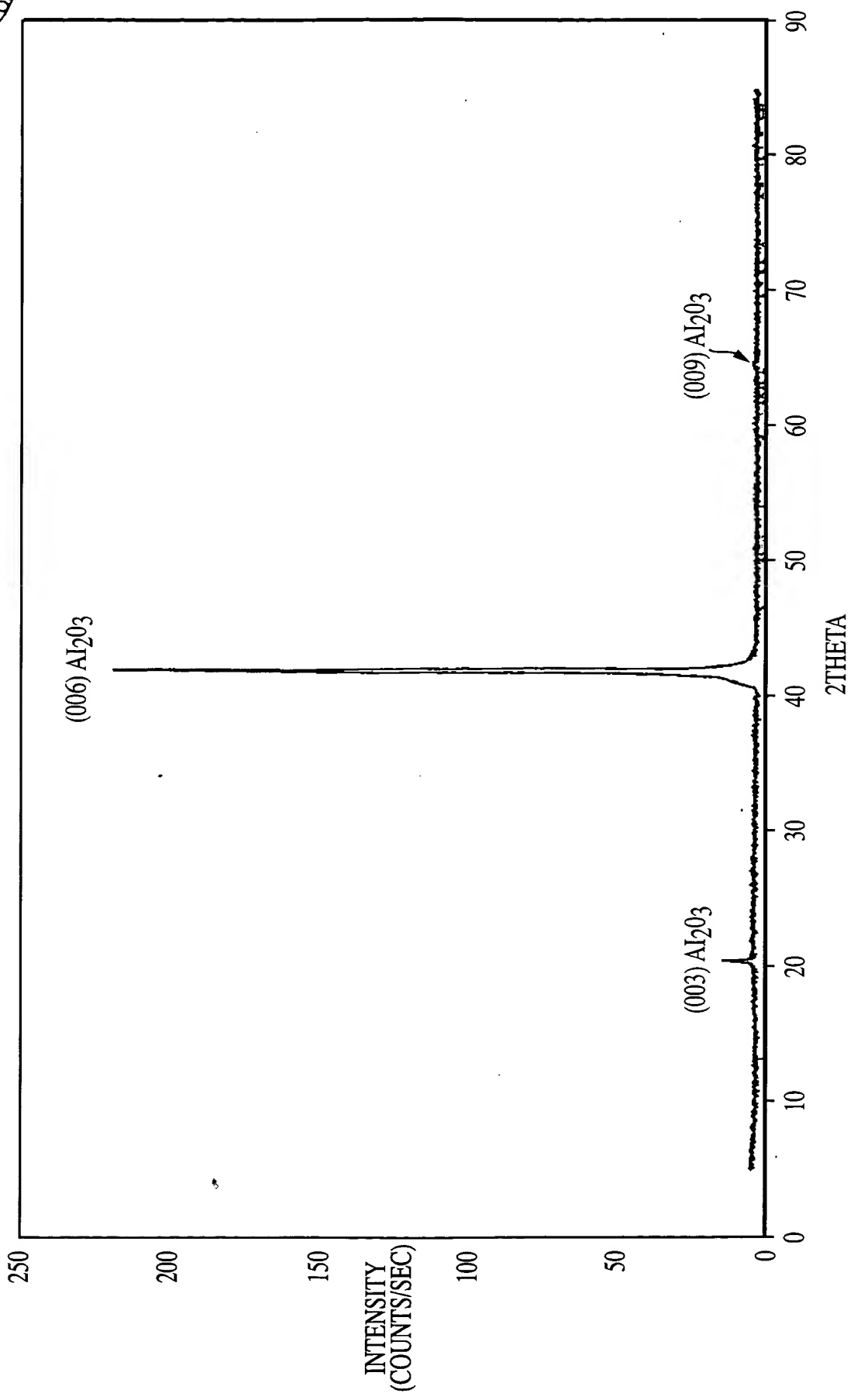


FIG. 5A

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GaN FROM GDA, 1000C

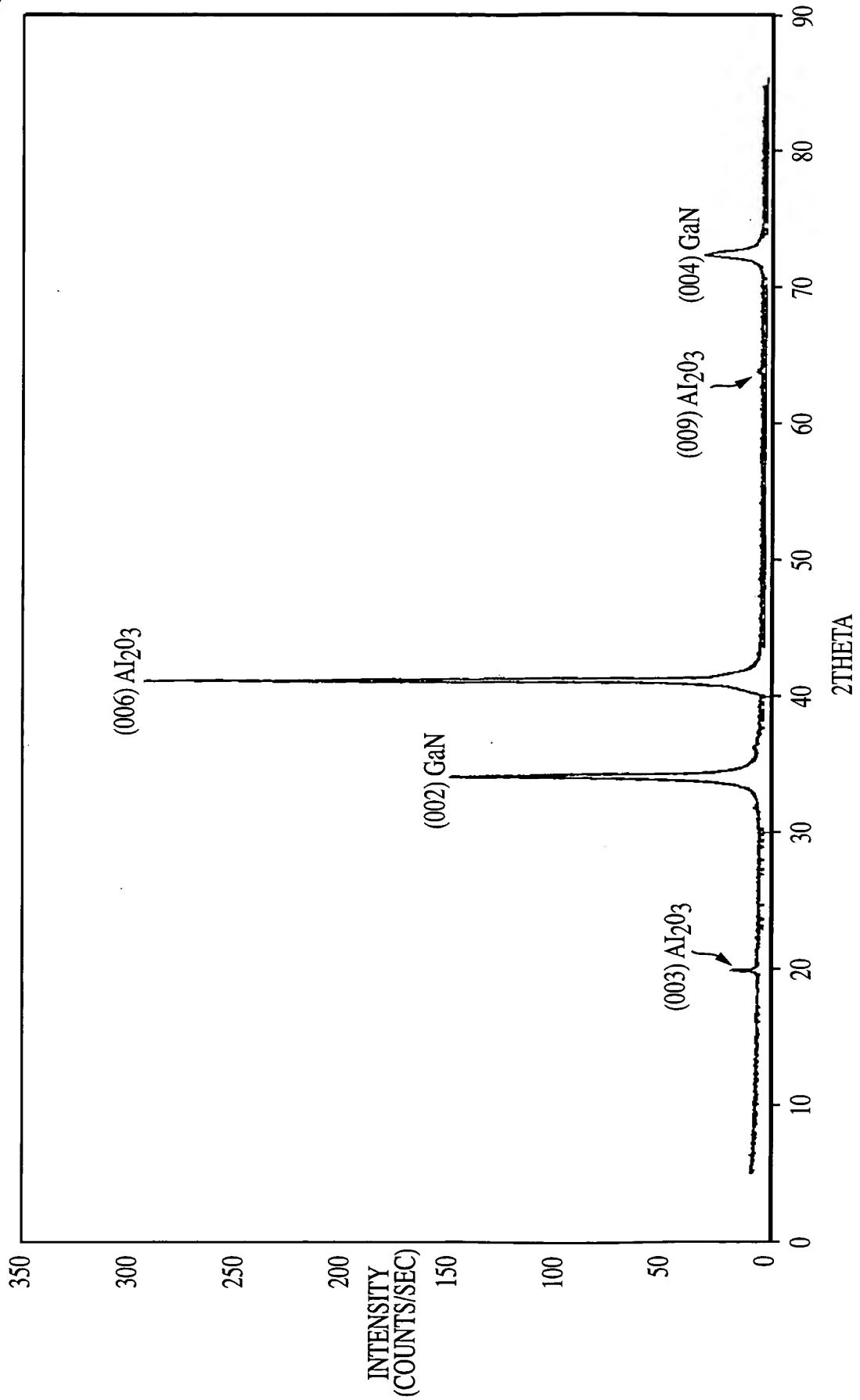


FIG. 5B

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OFF-AXIS PHI SCAN, GaN ON Al<sub>2</sub>O<sub>3</sub>

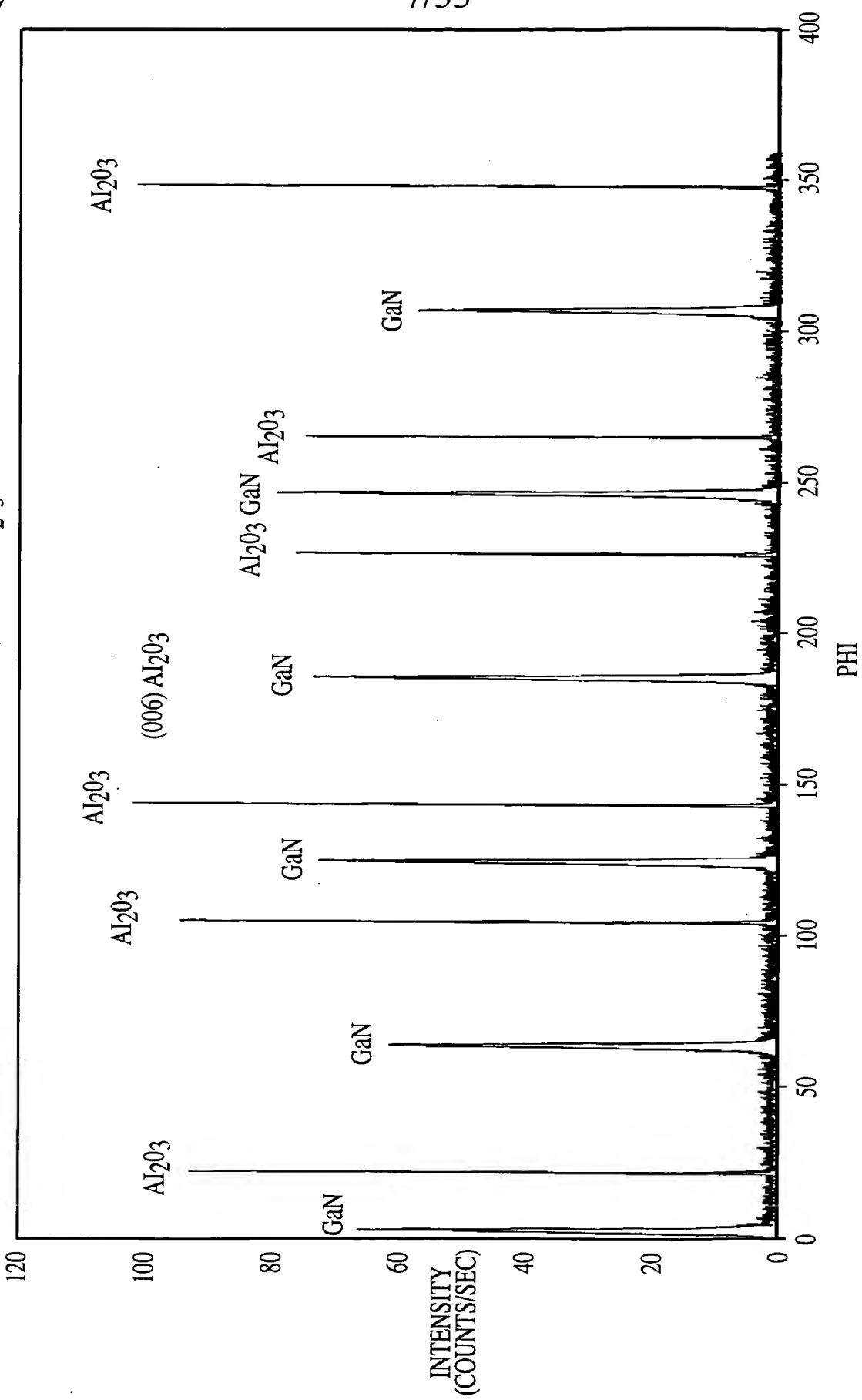


FIG. 6

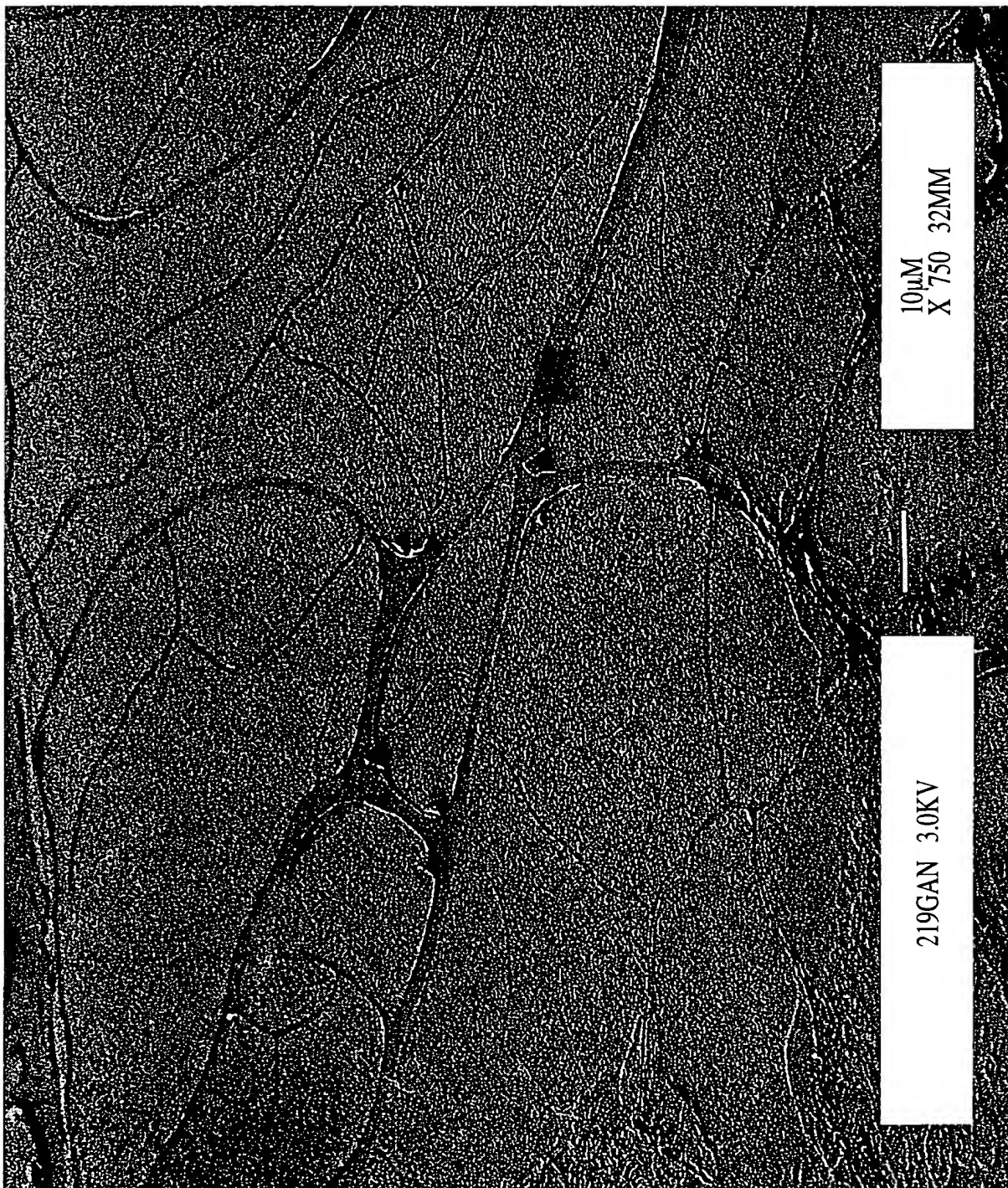


FIG. 7



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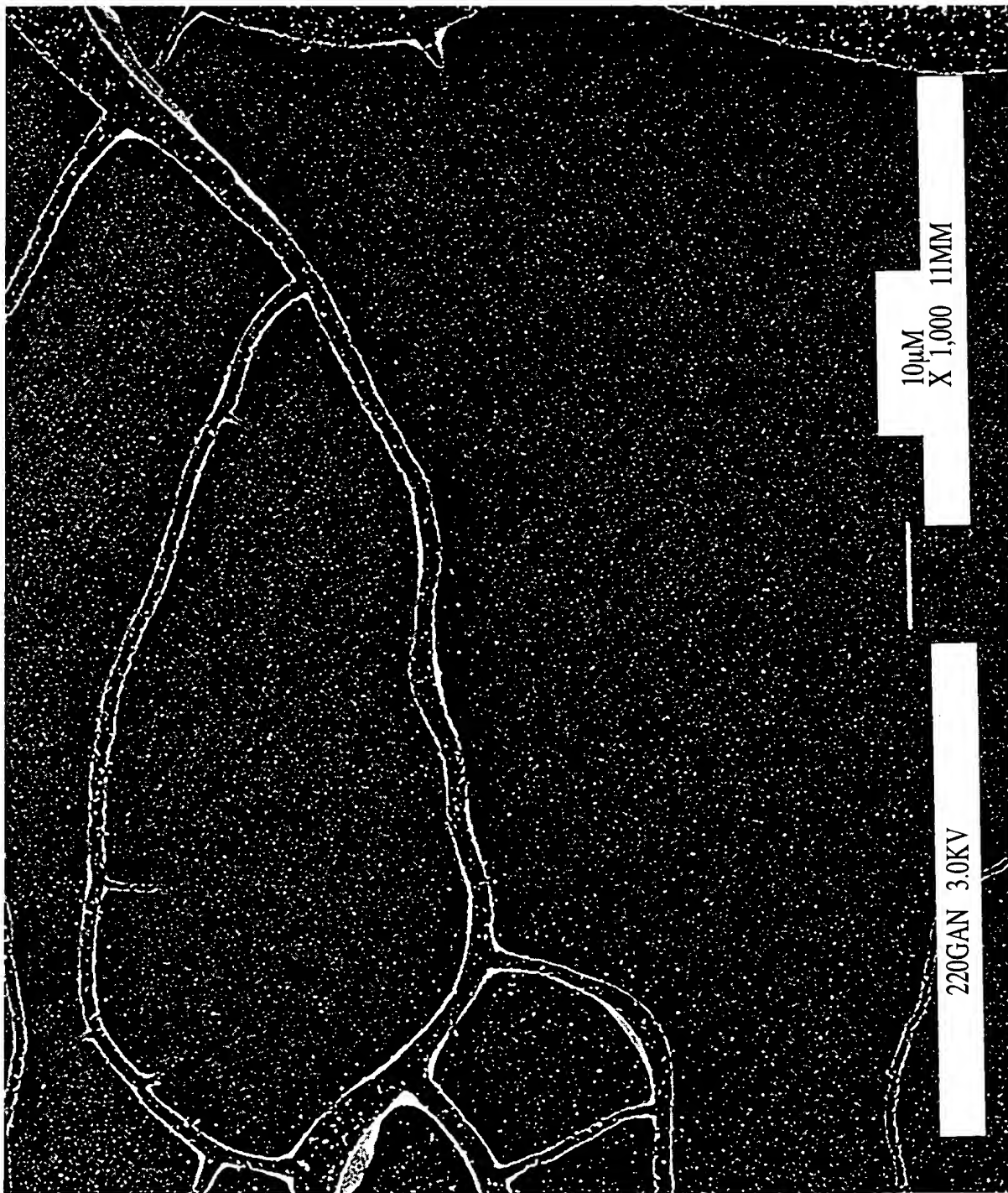
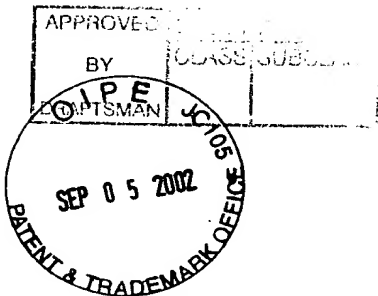


FIG. 8



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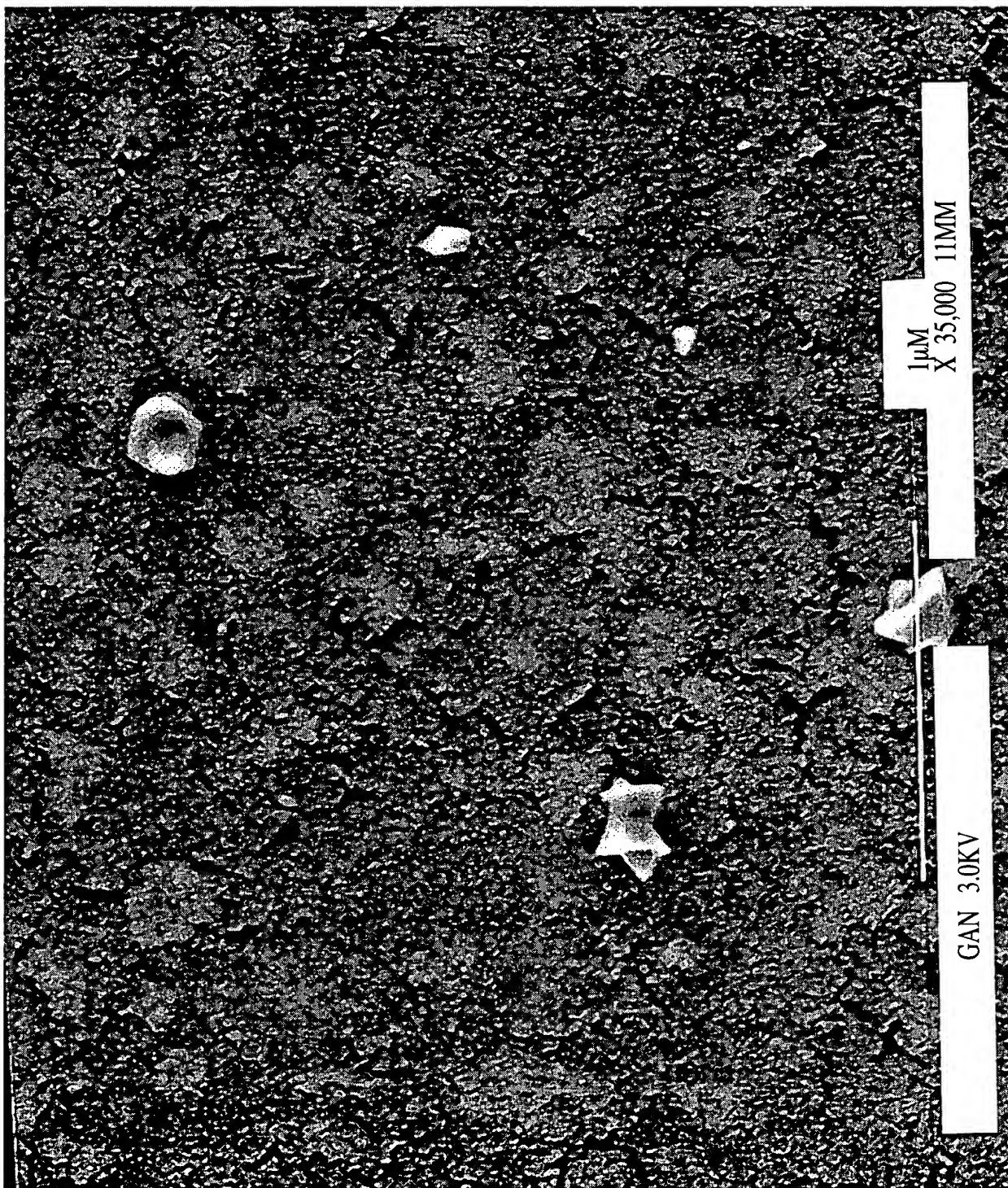


FIG. 9

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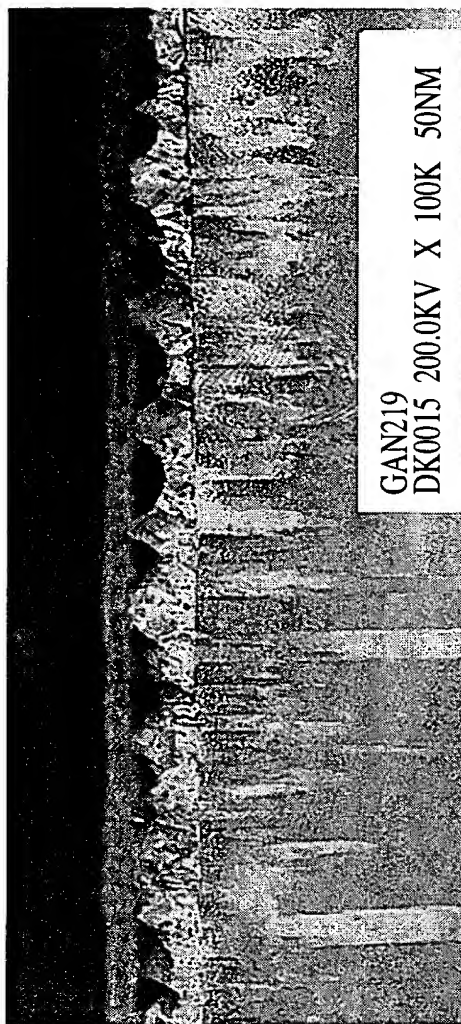
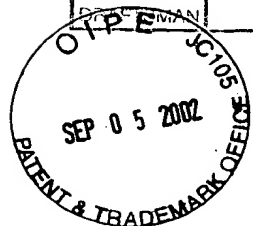
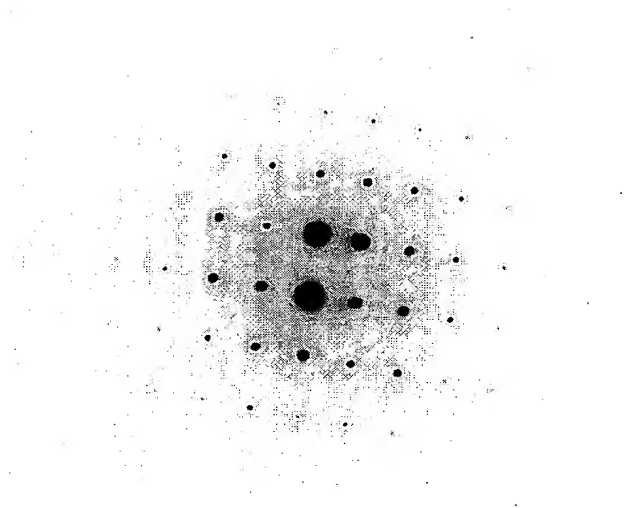


FIG. 10

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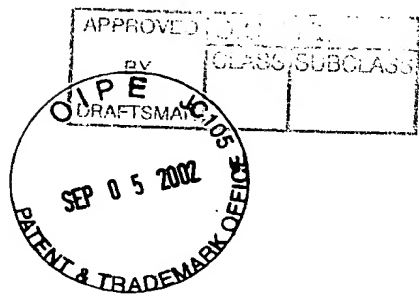


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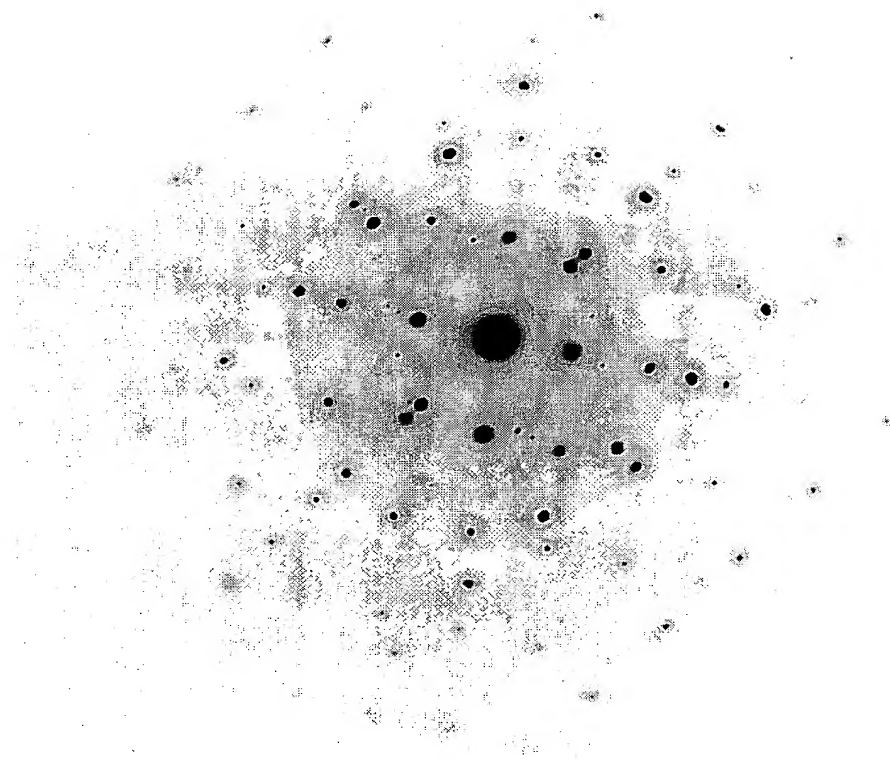


GAN219  
DK0009 200.0KV 83.0CM

FIG. 11



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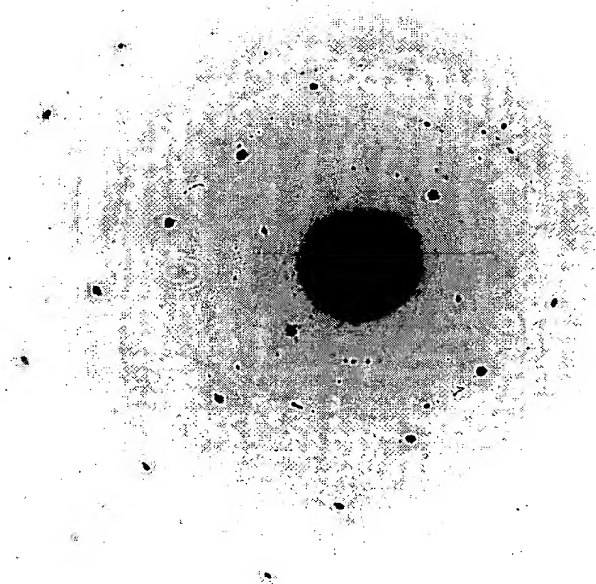
GAN219  
DK0003 200.0KV 83.0CM

FIG. 12

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GAN219  
DK0011 200.0KV 83.0CM

FIG. 13



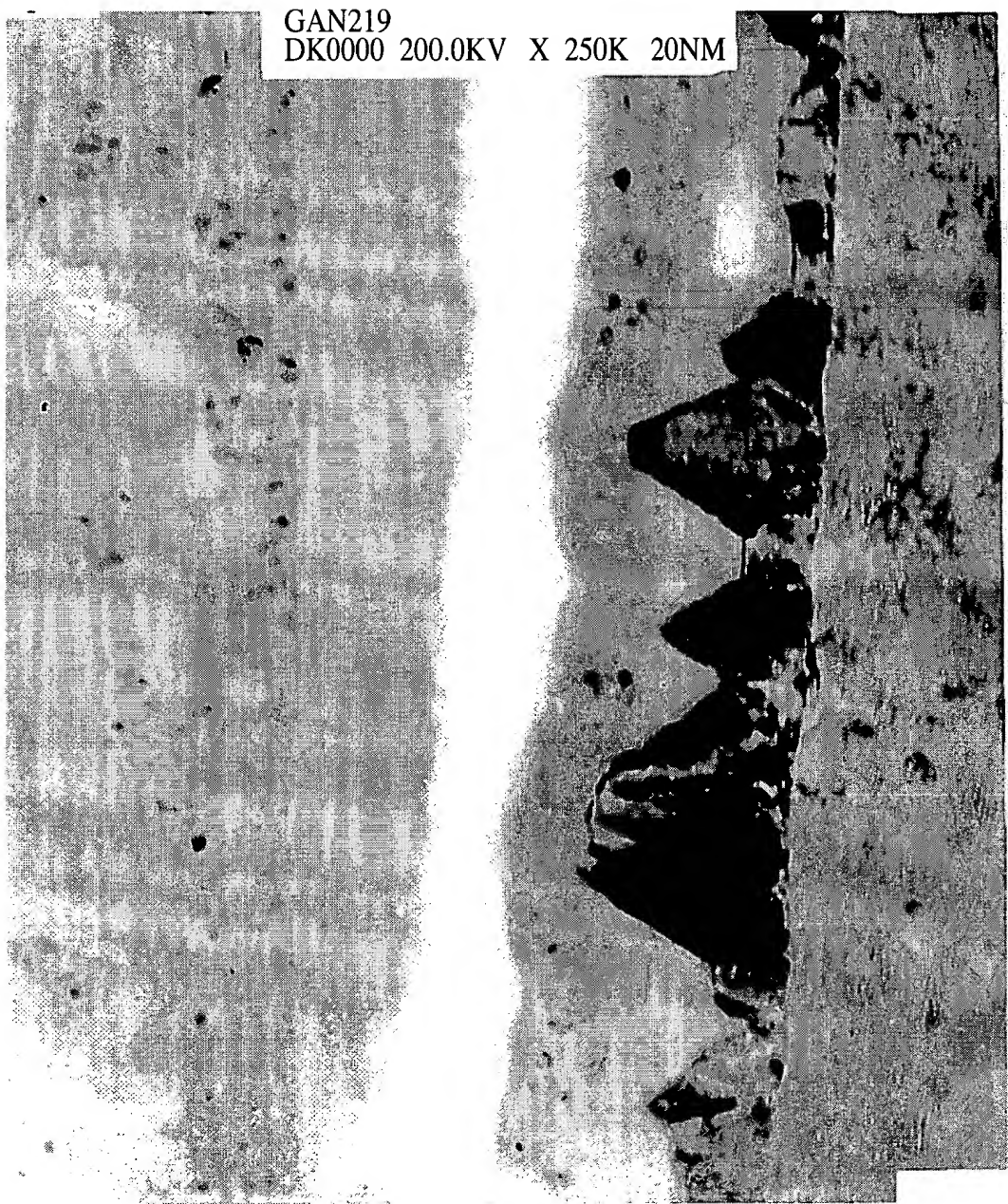
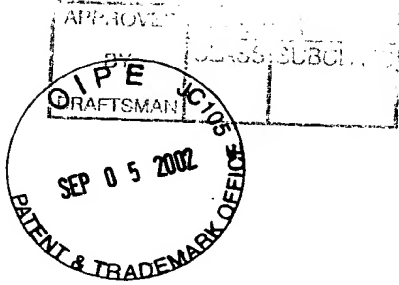
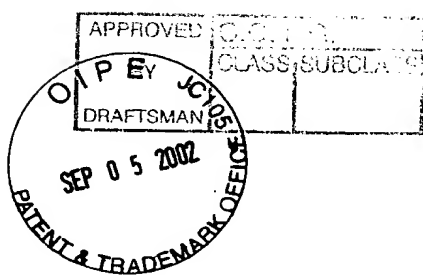


FIG. 14



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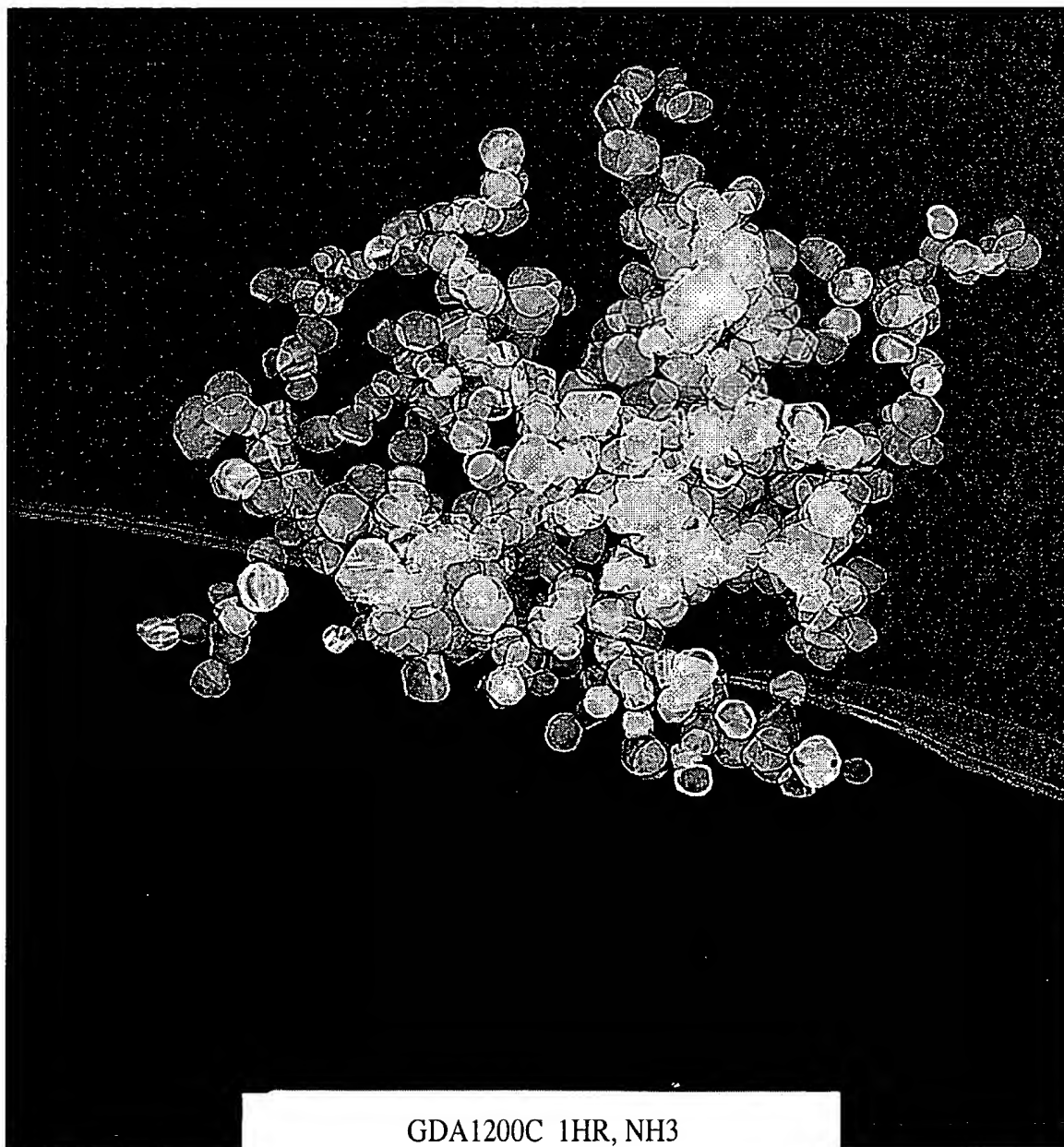


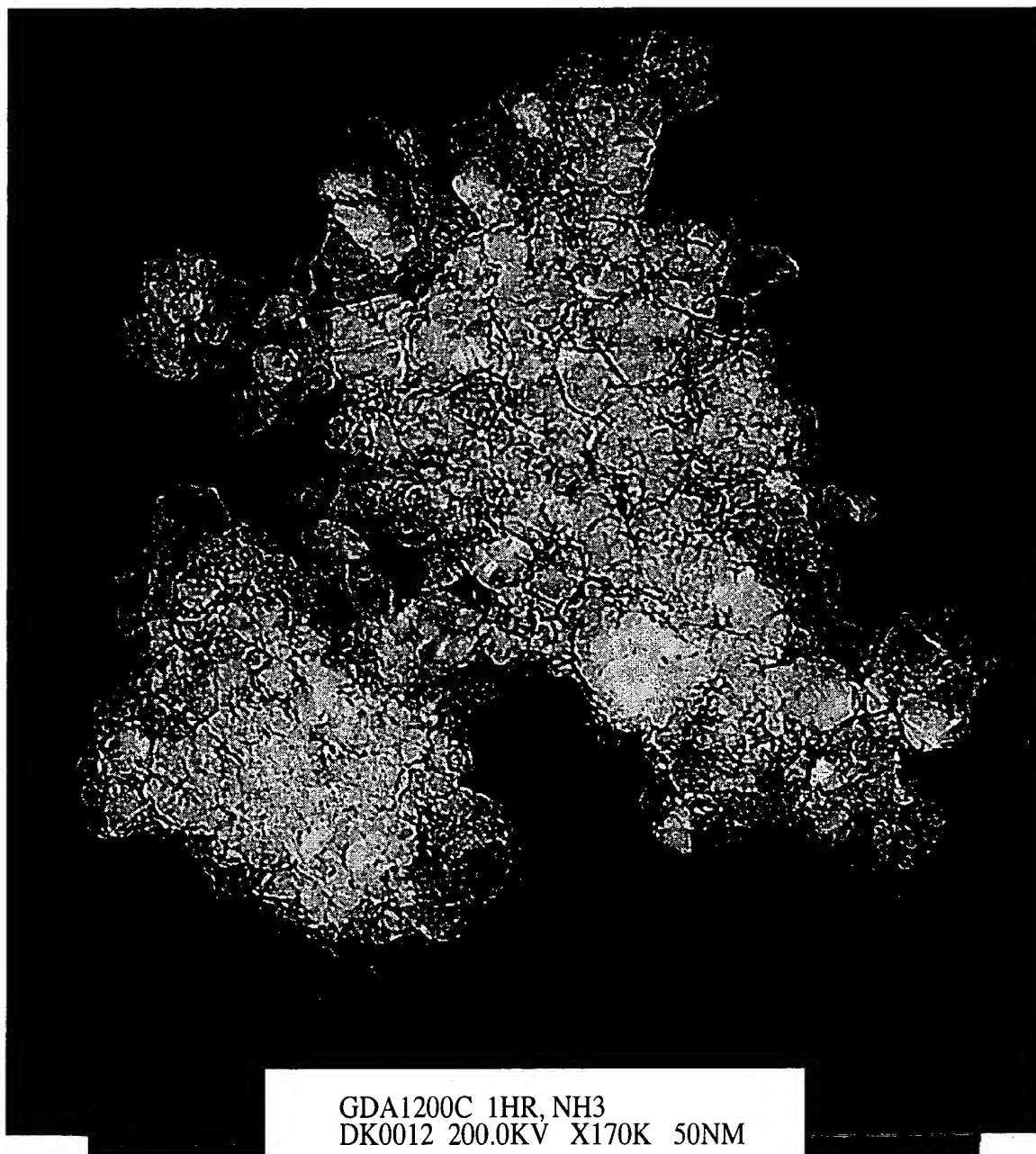
FIG. 15



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GDA1200C 1HR, NH3  
DK0012 200.0KV X170K 50NM

FIG. 16

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GaN FROM GDA, 600C

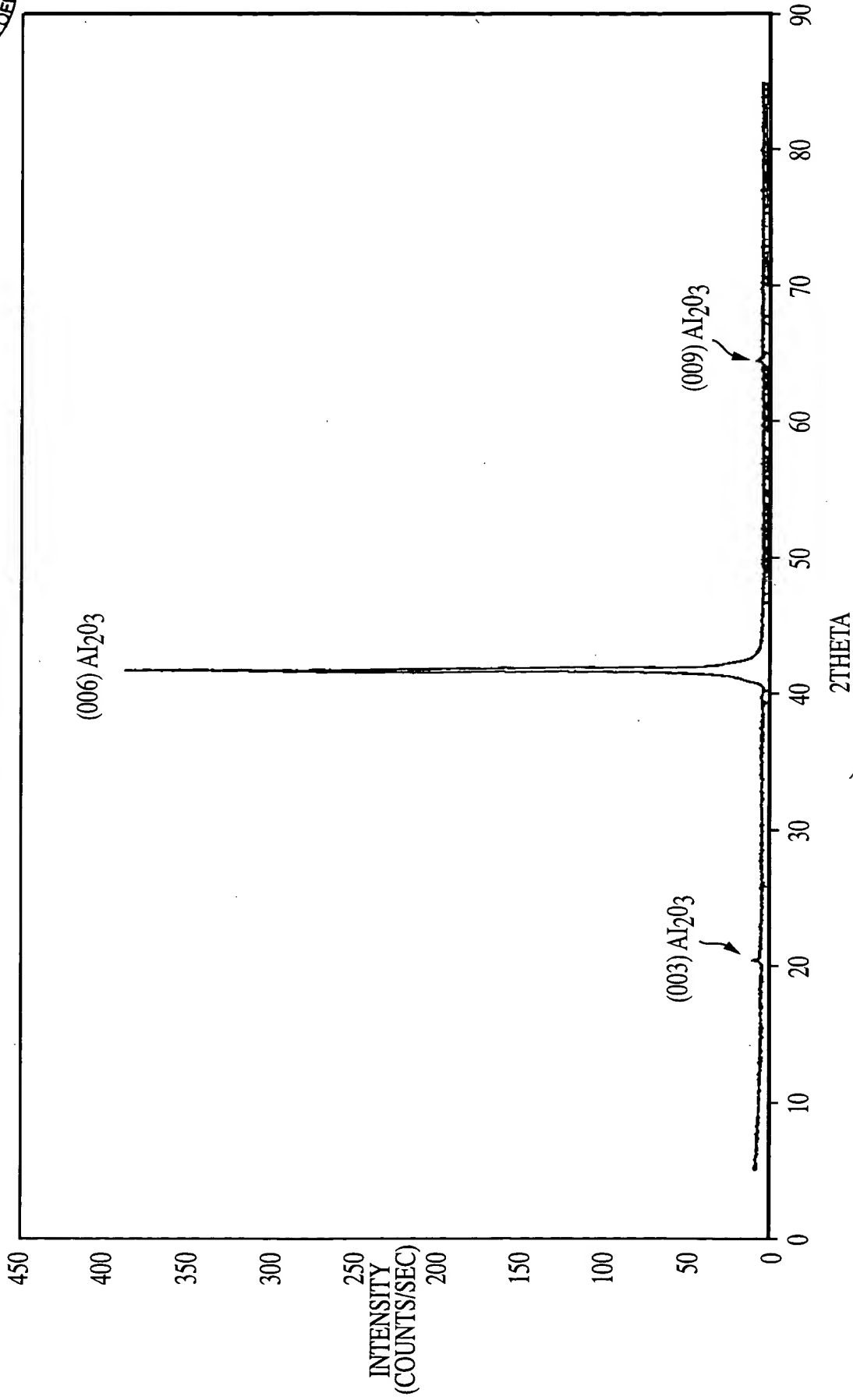


FIG. 17A

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GaN FROM GDA, 800C

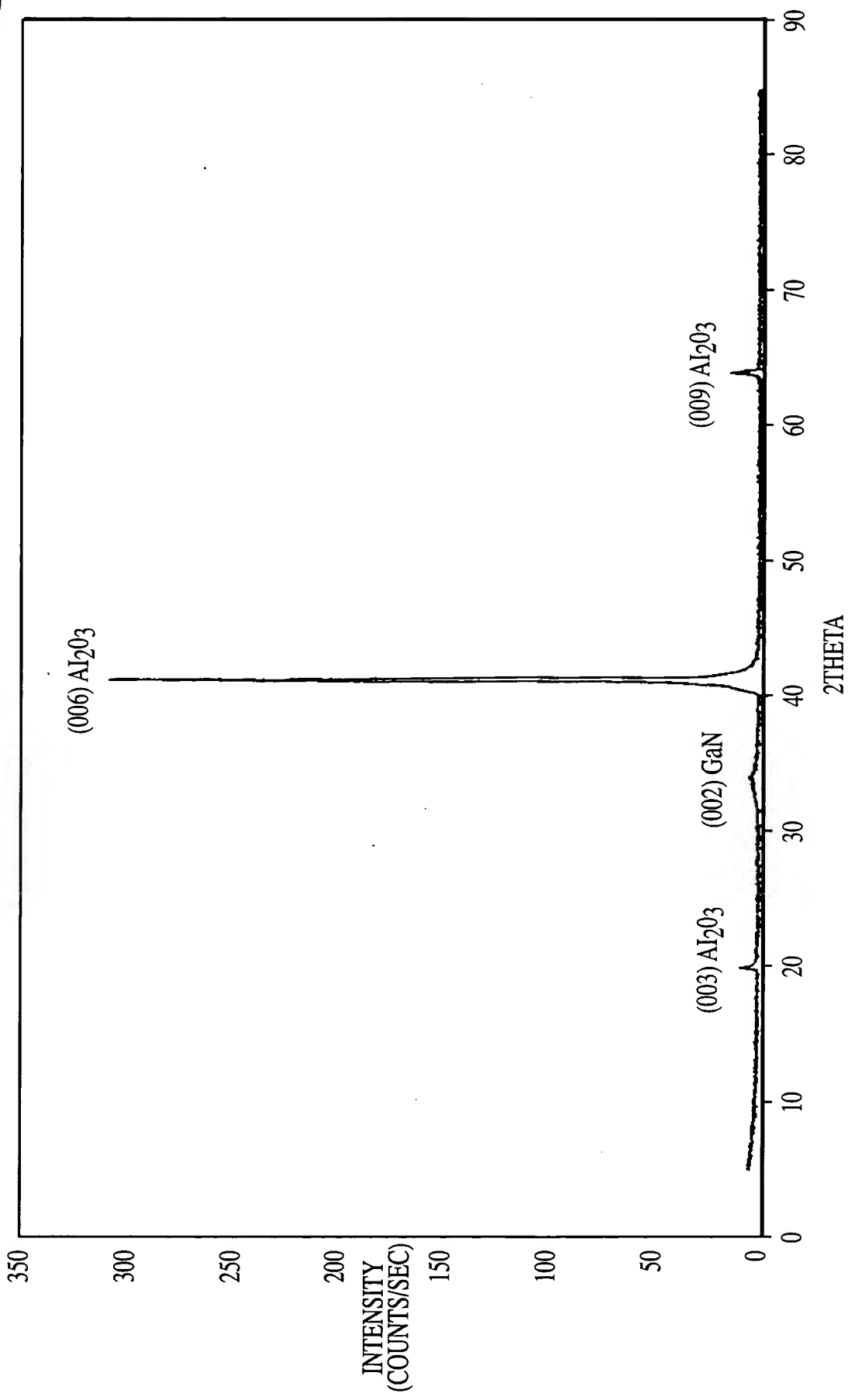
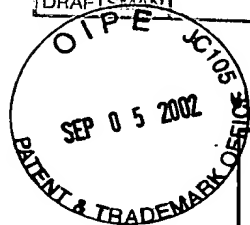


FIG. 17B

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GaN FROM GDA, 900C

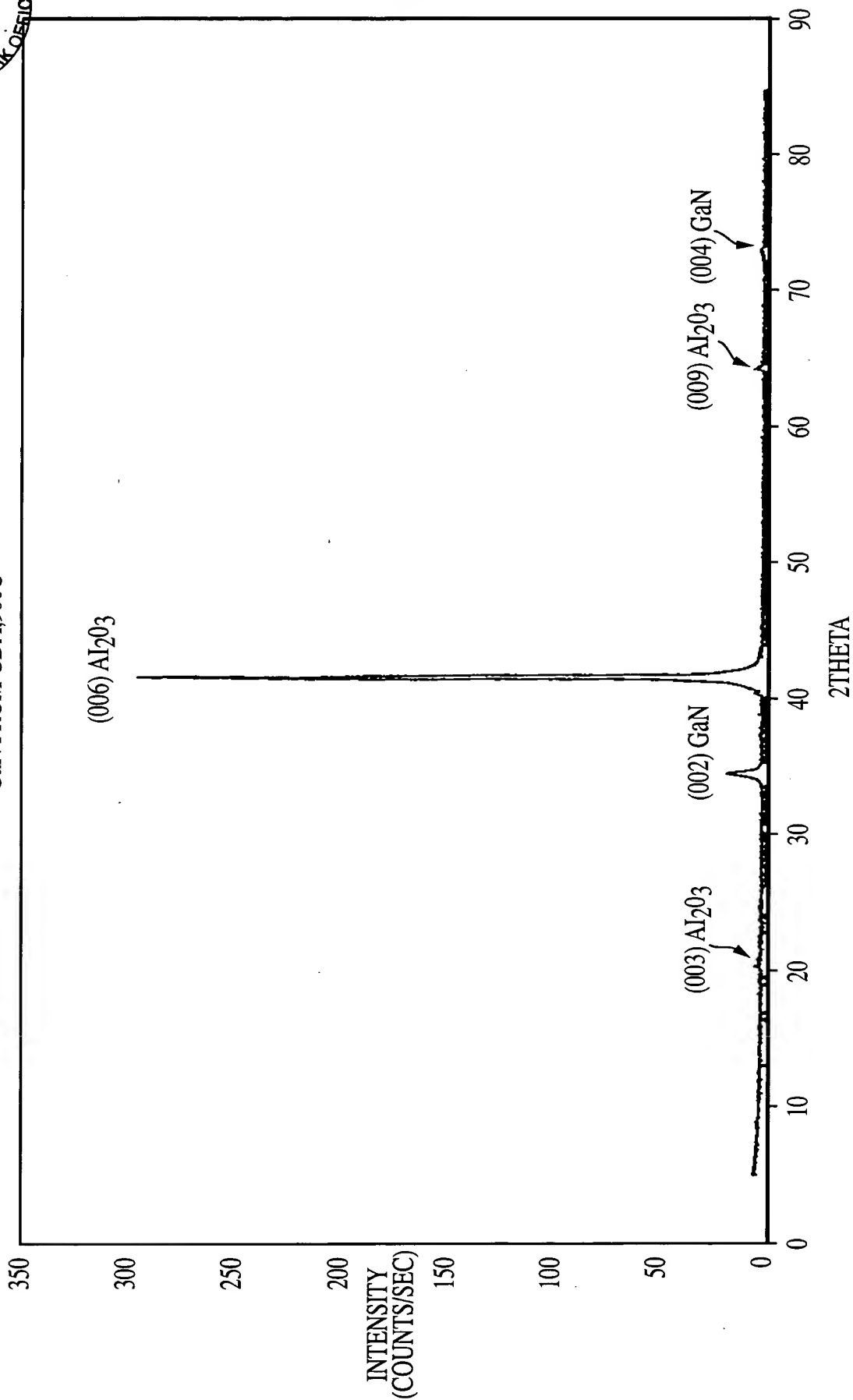


FIG. 17C

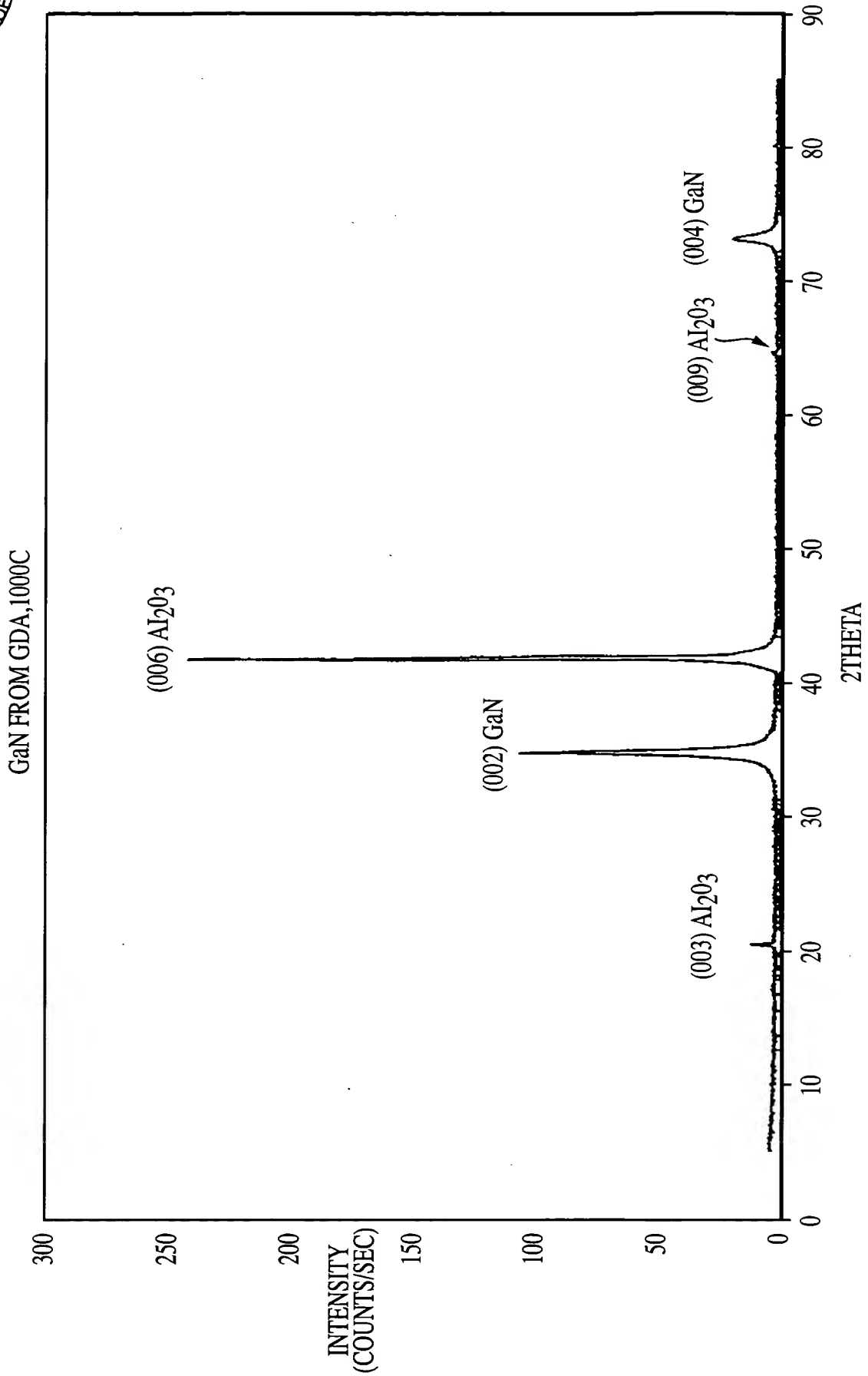


FIG. 17D

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GaN POWDER FROM  $\text{Ga}_2\text{O}_3$  IN AMMONIA

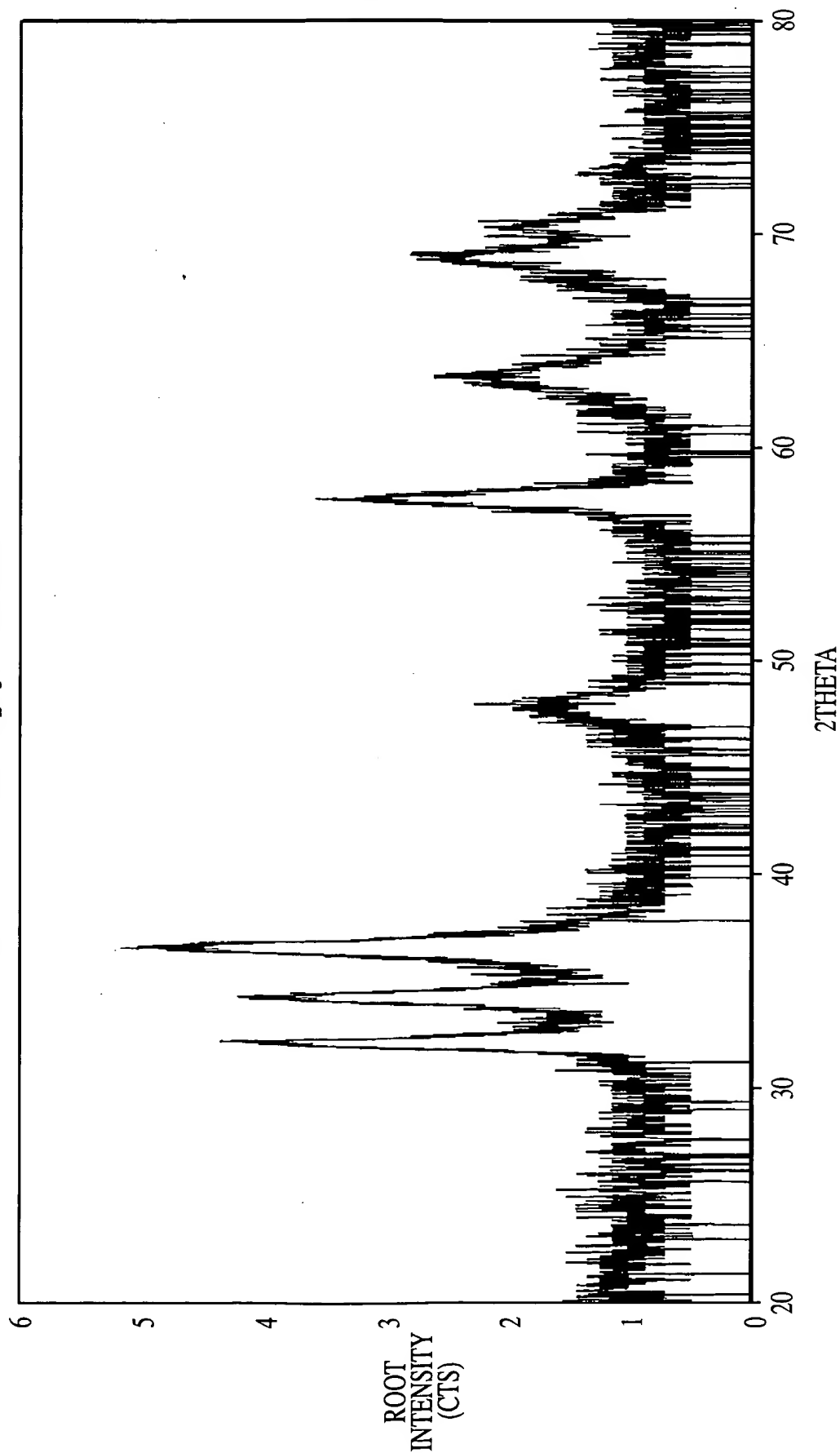


FIG. 18

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GaN FILM FROM GNO PRECURSOR (1 COAT)

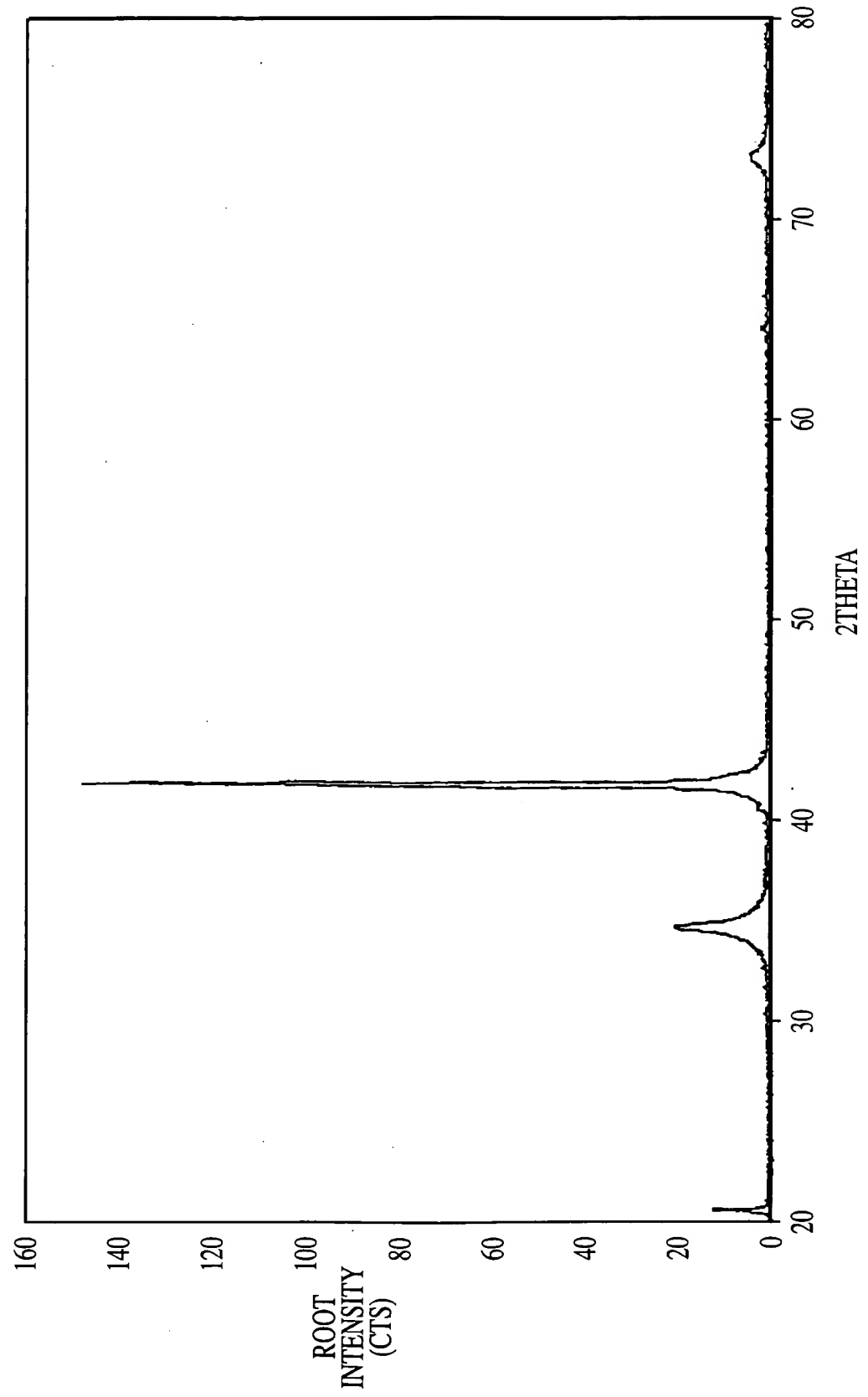


FIG. 19A

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GaN FILM FROM GIP PRECURSOR

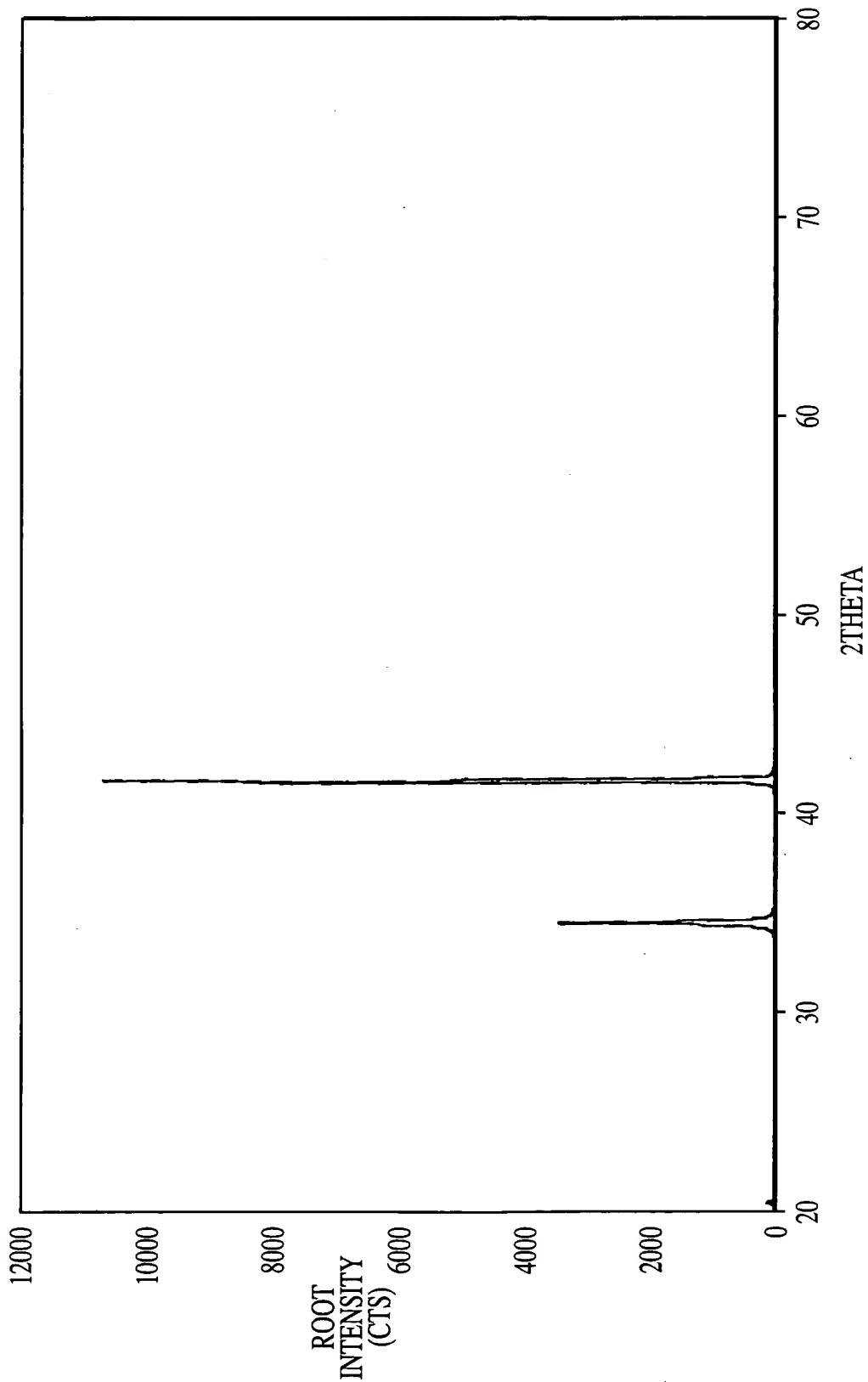


FIG. 19B



OFF AXIS PHI SCAN OF GaN FILM FROM GIP PRECURSOR

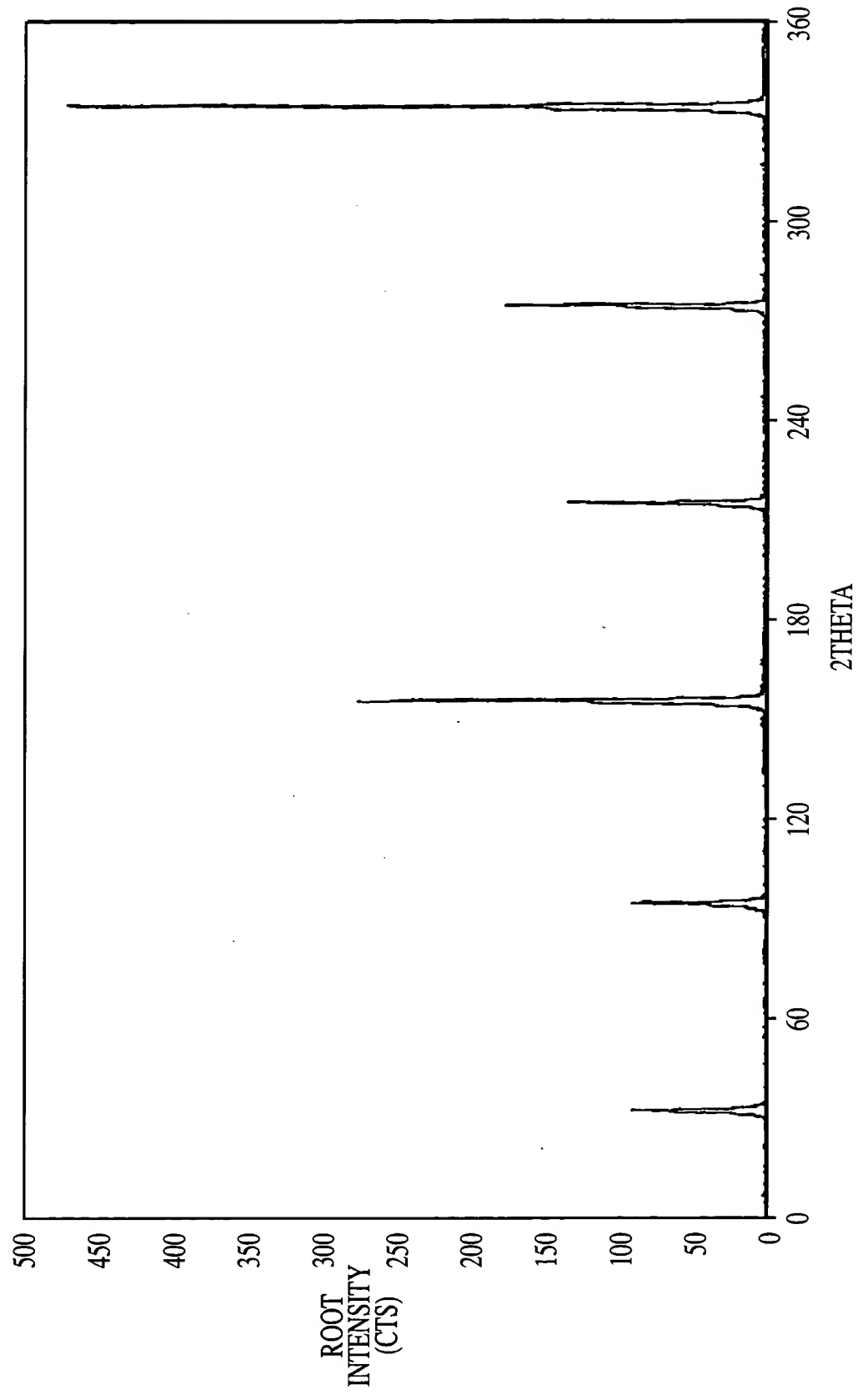


FIG. 20

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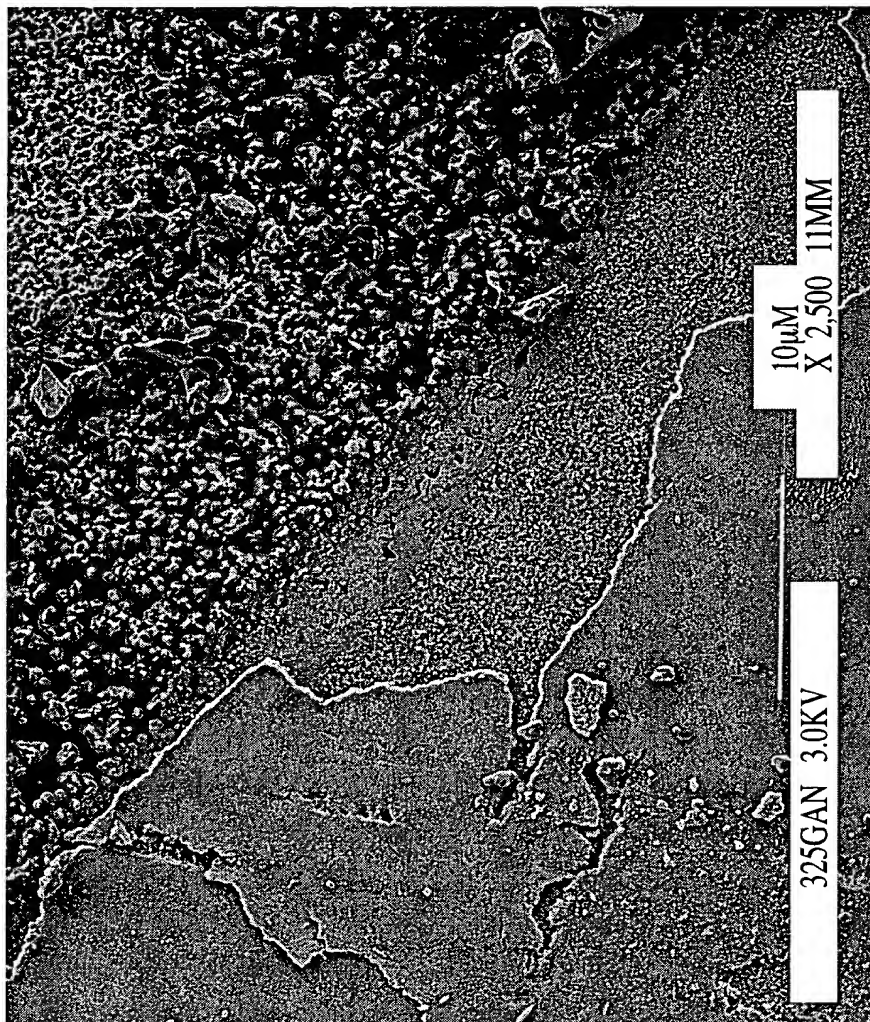
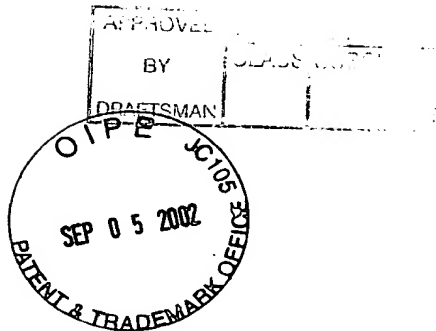


FIG. 21



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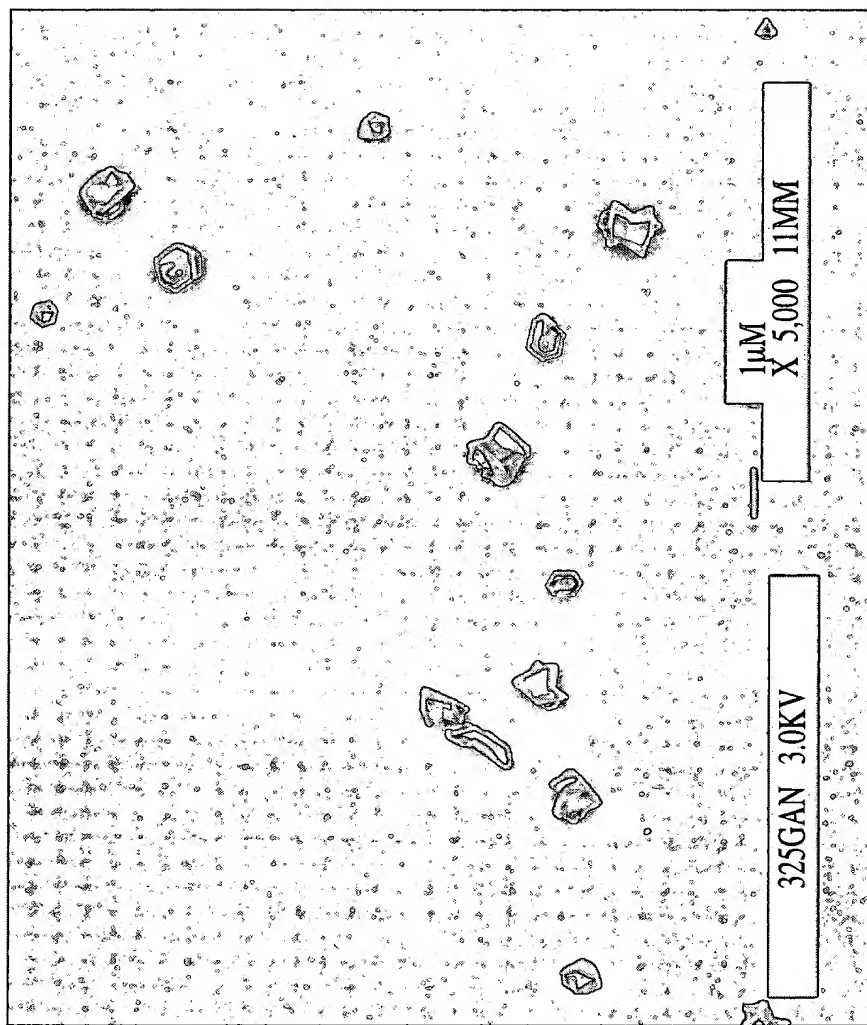
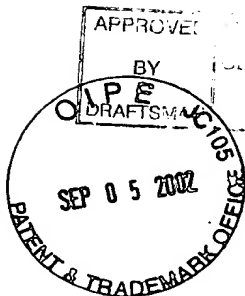


FIG. 22



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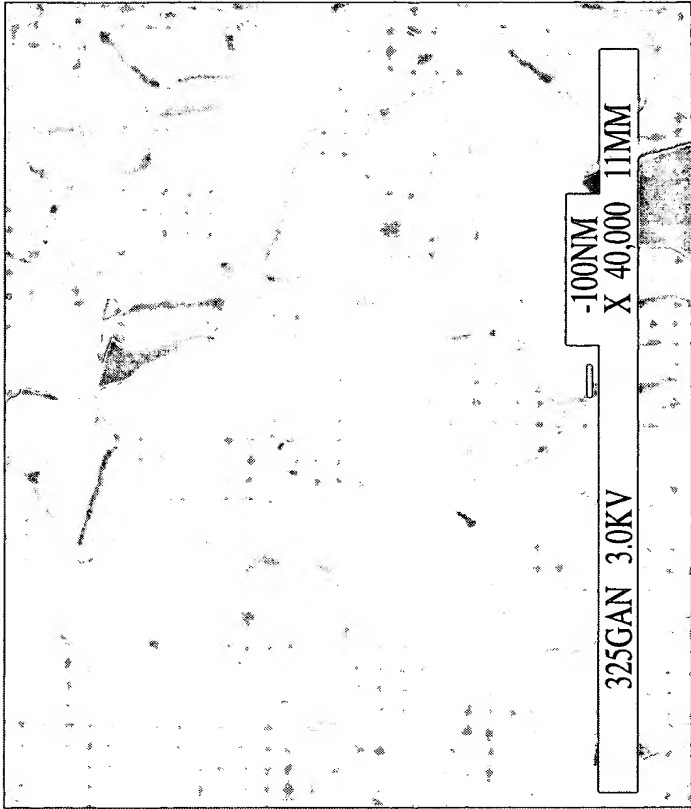
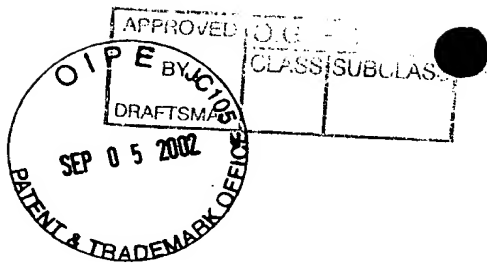


FIG. 23



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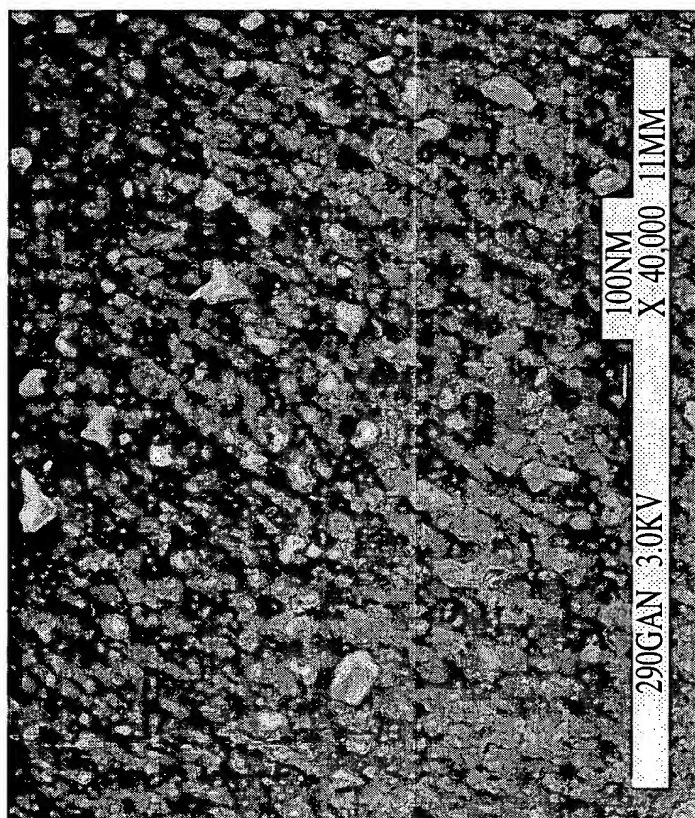


FIG. 24

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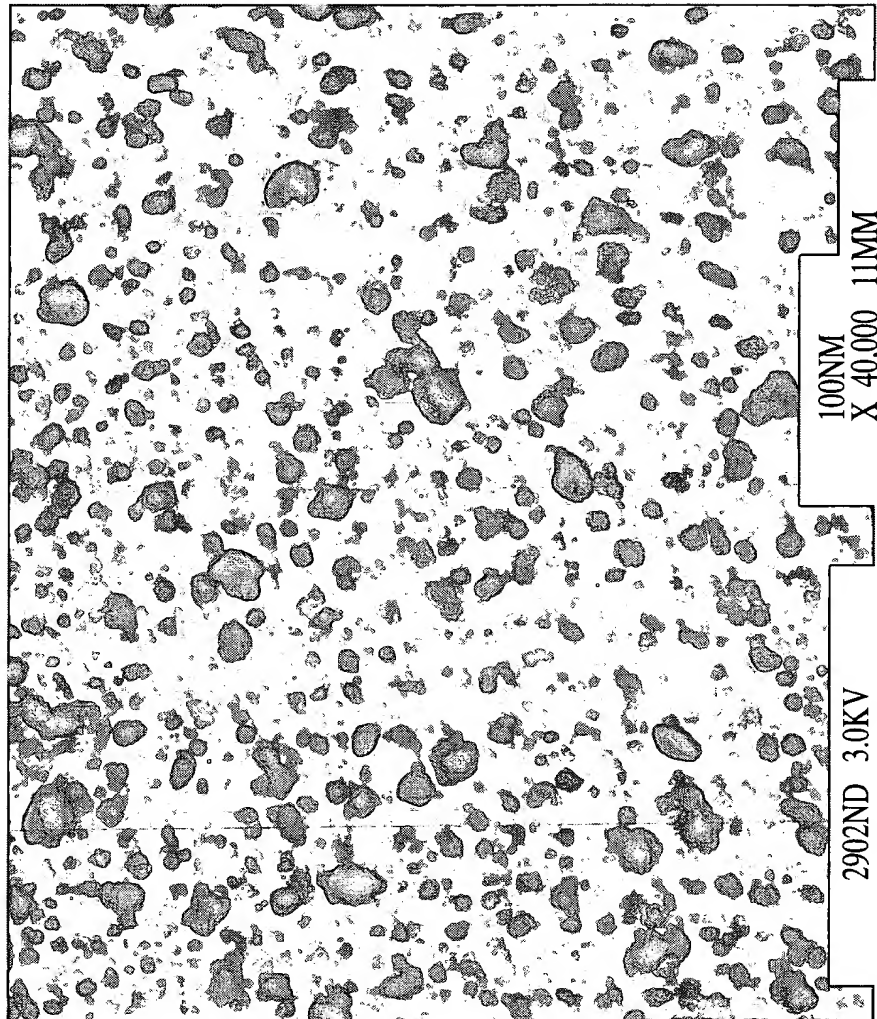
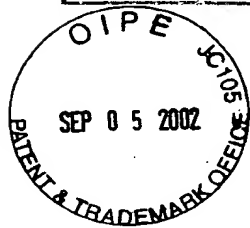


FIG. 25

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GaN FILM FROM GNO PRECURSOR (2 COATS)

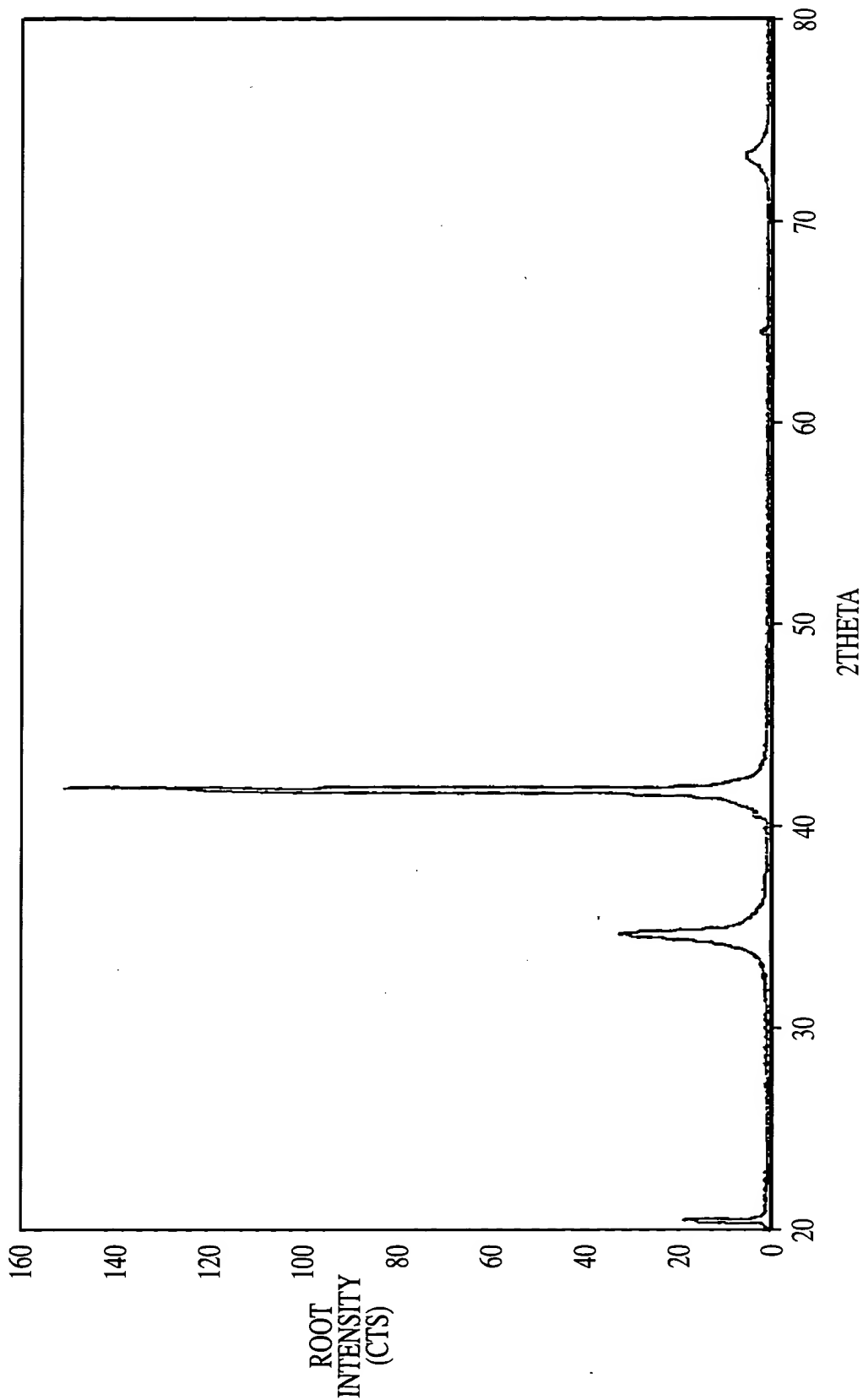


FIG. 26

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FIG. 27A

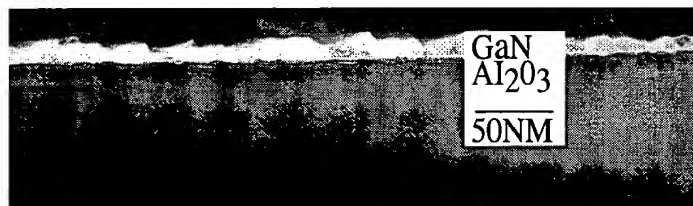


FIG. 27B

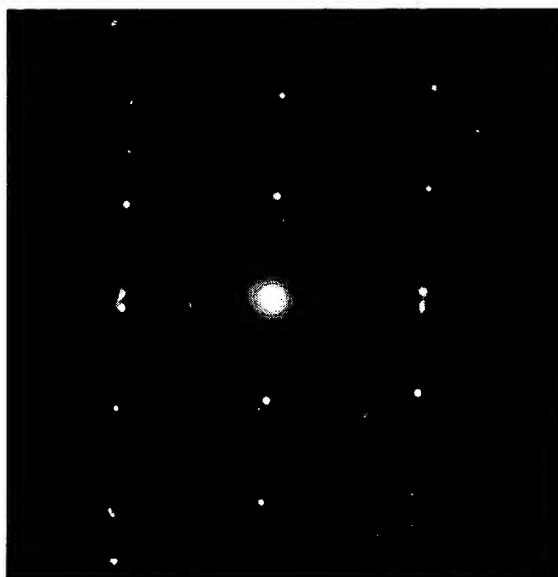


FIG. 27C



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GaN290 77K

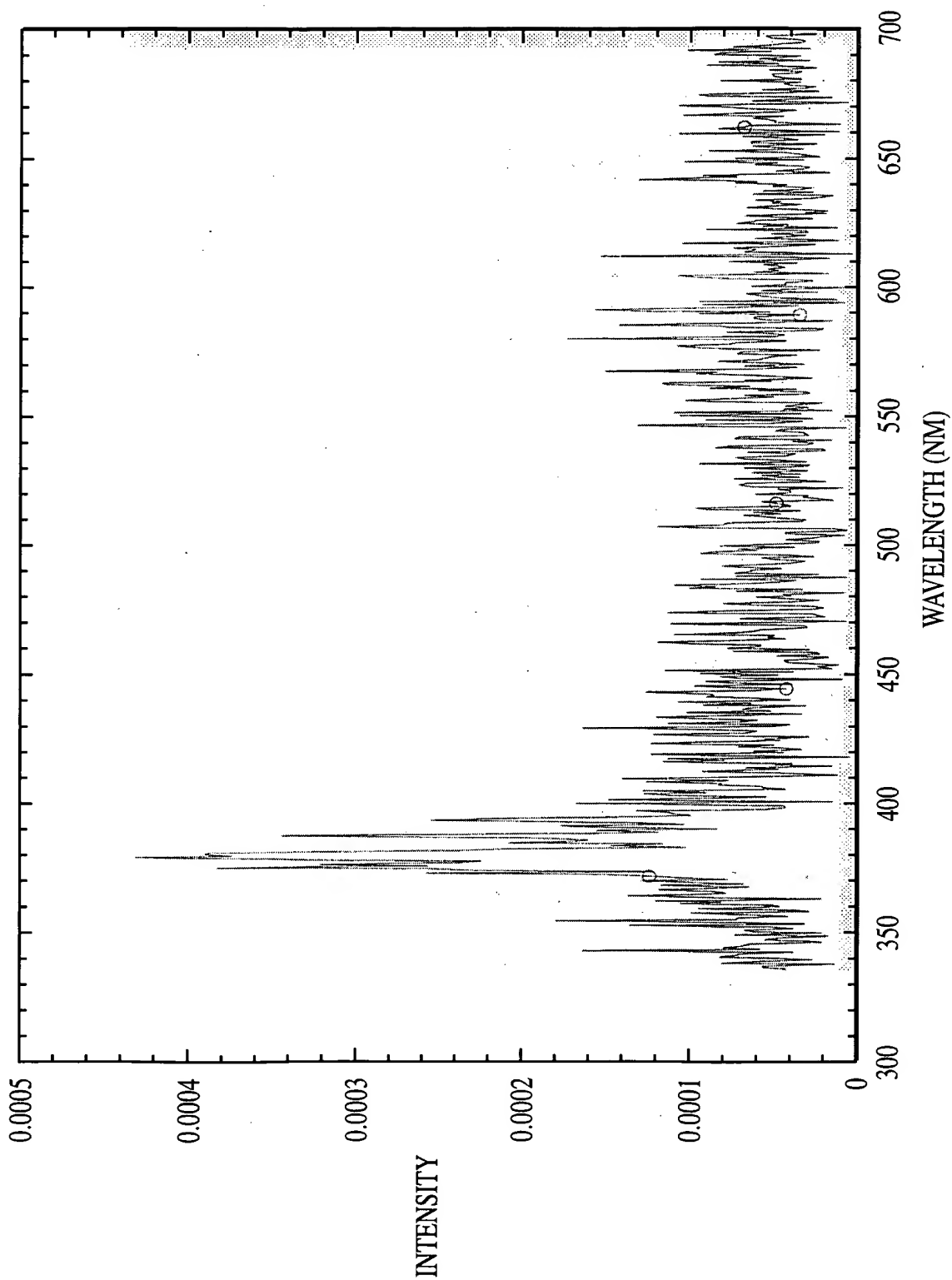


FIG. 28